

It will be appreciated that advertising content information may be transmitted to the electronic display locations by physically delivering a suitable information storage device such as CD ROM, zip drive, DVD ROM or DVD RAM. This approach may be utilized to transmit information to displays at any desired location, for example, to remote locations, to movie theaters, etc.

The Invention Applied to Distribution of Movies in Digital Form to Movie Theaters

Referring to FIG. 3, there is shown a block diagram of a system 220 for distribution of movies in digital form to movie theaters. System 220 includes a network connecting a plurality of electronic movie display devices 230 located in movie theaters of customers of system 220. The movie theaters may be "single screen" theaters having only one display device 230, such as small art houses. The theaters may also be smaller theaters with only two or three screens up to large mega-theaters having twenty or more display devices 230. The electronic movie display devices 230 may take several forms, each of which is fully capable of displaying movies to an audience of 50-100 or more movie goers. The various types of display devices 230 will be described in detail below.

A customer of system 220, a responsible party representing the movie theater and referred to herein as a movie theater operator, may access a central information processing station of the system via the Internet through a Customer Interface Web Server 240. The customer interface web server has a commerce engine and permits the customer to obtain and enter security code and billing code information into a Network Security Router/Access module 50. Alternatively, high usage customers of the system may utilize a customer interface comprising a high speed dedicated connection to module 50. Following access, the customer reviews options concerning his order by reviewing the available movies through a Review Available Movies and Purchase module 260 that permits the customer to see what movies are available, and thereafter schedule and purchase a movie for display utilizing one or more of the customer's electronic movie display devices 230.

Following scheduling and purchasing, the customer-ordered movie is transmitted to a server 300 associated with the customer's movie theater. Preferably, the servers are located at their respective displays 230 and each has a backup. An example of a suitable server is the IBM RISC 6000 server.

The means for transmitting digital movie content to the movie theaters may take a number of forms, with it being understood that any form, or combination thereof, may be used at various locations within the network. In one preferred embodiment of the invention as used in association with the distribution of digital movies, a satellite uplink/downlink system is used to transmit high speed, compressed, non-real time data on a plurality of channels. Each movie theater is in communication via a satellite downlink and has a decoder and a computer-based data storage device. As an example, a satellite may dedicate 100 channels to the continuous transmission of movies in non-real time, for example 3x real time transmission rates, so that approximately 4000 movies per day can be transmitted and are available for movie theater reception. The server (storage device) at each movie theater is programmed at the time the theater owner places an order for a movie to receive and store the particular movie when it is transmitted so that it can be available for screening at the theater at the desired time.

In addition to the above described satellite transmission system, other transmission systems (for example, certain

ones of the systems discussed in connection with FIG. 1) may be used either with real time or non-real time transmission. Thus, using a proprietary network of the present invention, a movie theater operator can schedule over the Internet which movies he wants to receive to his server(s). Movies will be encoded so that they will play only on a proprietary operating system. The operating system preferably has a modem that may be queried by the system's billing system on a periodic basis to bill the account. By continuously providing significant content through the satellite transmission system, movie producers, or other content owners, always have all of their content available for sale. Because the system will be providing its own receiver, server and proprietary software system that will support the digital projection units, the encoded content transmitted to each theater is protected from privacy.

In addition to the transmission techniques described above, it will be appreciated that the system may operate utilizing a "platter" of CD ROM, DVD RAM, DVD ROM, tapes or the like on site at each server associated with each digital movie display device 230.

As stated above, any suitable type of digital movie display device may be utilized in the movie theaters that are customers of system 220. Examples are as follows:

1. A large, seamless, flat screen LED display having relatively low power LED's suitable for the low ambient light conditions of a movie theater.
2. A high resolution, full color display utilizing high power LED's providing a light source for an LCD shutter-type screen as described in U.S. Pat. No. 5,724,062, incorporated herein by reference.
3. A projection system based on the digital light processing (DLP) technology developed by Texas Instruments. Complete electronic movie display systems utilizing the Texas Instruments DLP technology are sold by various manufacturers, including Runco, for example, Runco product VX7.
4. Reflective LCD technology developed by Hughes/JVC and Reflective Technologies can provide a completely digital, flat panel, full color movie screen.

FIG. 4 illustrates another system 420 including a network connecting both electronic displays 30 intended for advertising in high traffic areas and electronic movie display devices 230 intended for use as movie "screens" in digital movie theaters. According to this embodiment of the invention, input module 470 transmits advertising content to displays 30 in the manner described above in connection with the embodiment of FIG. 1, while also serving to transmit movies in digital form to movie theaters having a server 100M and electronic movie display devices 30M.

While the present invention has been described with reference to specific embodiments, it will be appreciated that modifications may be made without departing from the true spirit and scope of the invention.

What is claimed is:

1. A system permitting video or still image content to be displayed on selected ones of multiple electronic displays at selected times according to the dictates of system customers, said system comprising:

a network connecting to a plurality of electronic displays; at least one central information processing station including:

- a customer interface permitting system customers to access the system;
- means permitting system customers to review options concerning their orders;